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Using Impact as a Strategic Tool for Developing the Digital Library via the Balanced Value Impact Model

Simon Tanner

Introduction

Digital libraries compete for the attention of those senior decision makers who act as gatekeepers to the limited funds that exist to support libraries as a whole. Many digital libraries are built from within a largely unfunded mandate (Tanner 2010, 37-47). This unfunded mandate includes such desirable features as: providing enhanced access to information, long term retention of sustainable digital resources and increased engagement with information and libraries by their communities. Whatever the type of library, and from wherever the funding is sourced, there is an imperative to demonstrate that information can be delivered to the desired community of use in ever more efficient means and with a reduced budget. The digital library finds itself in a difficult economic position. As an intermediary and an enabler of information use from both non-chargeable and bought content it experiences both the upside and the downside of the Internet. The upside is the ability to deliver a much wider aggregation of reliable information at a generally smaller unit price than before. The downside is that whatever the source and the price of the units being delivered, the digital library infrastructure costs continue to rise and the spectre of rising total cost of ownership and digital preservation costs are clearly apparent. It has been correctly argued that maintaining digital access and addressing preservation is not necessarily a costly enterprise compared with the analogue world (Rusbridge 2006). However, digital library costs are not replacing analogue costs but offering additional requirements often not financed. This forms a growing unfunded mandate that will, in my opinion, provide the biggest single threat to future digital library economic sustainability.

Alongside the economic, come pressures to demonstrate the social value and worth of the digital library. Particularly in the last twenty years, libraries have created, purchased or otherwise obtained a mass of digital resources and delivered these online to a range of users worldwide. In the UK alone, we can identify over £100 million spent on digitization in public, university and national libraries between 1997 and 2011 (Tanner and Deegan 2011, 8-9). We know from the usage statistics that uptake is considerable, but there remain questions that we don't accurately know the answers to: How are these resources received by their audiences? Who exactly are the recipients of the resources? What do they do with them? And crucially, what impact have they had on their lives? Recent research discovered and identified a considerable range of benefits and value in digital resources and collections (Tanner and Deegan 2011, 10-33). However, to step up to the challenges now facing the creative, cultural and academic sectors of digital libraries we have to move beyond traditional measures that have focused on web statistics, anecdotal information or evaluations of

outputs rather than outcomes (Oxford Internet Institute 2009; Finniss et al 2011). In short, can impact assessment be used to deliver a strategic mechanism to demonstrate that our digital libraries are delivering a beneficial change to our communities that we can delineate in economic and social terms?

What is Impact?

Impact and Impact Assessment (IA) have many definitions depending upon the context of use. An extensive literature review and secondary/desk research across a range of organisations, public, private, commercial, educational, governmental, non-governmental, charities et al, suggested strongly that there were many points of contrast and disagreement over how to implement IA, but alongside that contrast are clear areas of agreement upon the challenges, the best practices and the easy errors that IA can fall into (Tanner 2012, 12-19). There are well-established, professional and mature fields of IA such as the Environment, Health, Economic or Social Impact Assessment, but these have not normally been closely associated with memory institutions' methods of evaluation, particularly with regard to digital content or the digital library (Markless and Streatfield 2006; Selwood 2010; Wavell et al 2002).

All Impact assumes an intervention for which the effects will be measured against a set of potential beneficial stakeholders needs. IA spans both qualitative and quantitative methods, with measurements possible before the event (ex ante) and after the fact (ex post) methods. The focus here is upon measuring change and evaluating the value of that change. As such, impact provides a useful lens through which to consider strategic and purposeful planning that seeks to achieve measurable change for a digital library community.

In this context, the definition of impact offered by Tanner's Balanced Value Impact Model is: *the measurable outcomes arising from the existence of a digital resource that demonstrate a change in the life or life opportunities of the community for which the resource is intended* (Tanner 2012, 4).

When considering a beneficial change in someone's life or life opportunity the intervention through engagement with a digital resource may deliver benefits that are, at heart, advantageous from perspectives such as:

- Educating and learning
- Engaging and increasing knowledge
- Economic and generating wealth
- Health and wellbeing
- Social and community cohesion
- Environmental and sustaining
- Political and democratising
- Technological and innovating
- Entertainment and participation

- Equality and equity

As this paper discusses the strategic value of using impact it does so in the context of Tanner's Balanced Value Impact Model (BVI Model) which seeks to provide a cohesive model: to provide a definition of Impact that can be used by any library, archive, museum/gallery (GLAM) or memory organization with a pragmatic implementable framework for delivery. The BVI Model allows these differing perspectives and sector differences to co-exist in a single model. It also brings into focus something so far missing in impact assessment: the digital factor. The majority of the IA work investigated in the literature does not interact or reference the digital domain very well, with a notable exception for museums (Finnis et al 2011), and it is vital to consider fully the implications of digital as part of the context of impact for digital libraries.

Can Digital Libraries Change Lives or Life Opportunities?

A core challenge for digital libraries is the difficulty demonstrating a neat value chain of causality between planned activity and the resulting outputs leading to clear outcomes and impact. The reasons are often related to scale, diffusion of audience and complexity of the digital ecosystem.

Specific examples, such as described below, illustrate these challenges and the faceted nature of impact and value chains.

The Jibon Paribortone Library

At a smaller scale it is easier to demonstrate causality and there are some notable examples. For instance, research into sex workers in Bangladesh demonstrates a relatively straightforward causality between the availability of a digital library and the life changes made by those disadvantaged beneficiaries (Nasiruddin 2014, 8-13). The authors report on the Jibon Paribortone library (translating to Library for Changing Lives), a digital library to support 10,000 sex workers: *"through dedicated brothels-based libraries, provided them with the opportunity to make their own choices for a better future... to improve the quality of life of the sex workers and their children in a sustainable way through training and learning by the innovative approach of a library"* (Nasiruddin and Nahar 2014, 1-2). They go on to report that in the first year alone some 200 sex workers completely changed professions to other trades (such as making clothes and bags or working in beauty parlors) whilst some 300 others had increased their income from trades other than sex work. This is a clear example of how at a small scale causality can be established in the outcomes and impact on those communities targeted by the effect of the digital library's presence.

Codex Sinaiticus

Digital projects and resources frequently operate at a much larger scale and in these cases it becomes ever harder to relate the heightened engagement or use to an exacting measure of impact. This is especially true as the digital resources become of less immediately instrumentalist value. For example, the Codex Sinaiticus digital project at The

British Library, reportedly had 20 million hits in the first 24 hours of the project being launched online, of which some 170,000 turned into continuing visits (Garcés 2007; First Followers 2009). These numbers appear significant but do they indicate the importance and value of the digital resource to the community or just the newsworthy nature of the project which was carried on some 450 news organisations? How can we measure the impact in terms of genuine change or enhanced experience when the numbers are so high and yet the audience and the effect upon them is so diffuse? One commentator in my research contemplated the net loss to the UK's Gross Domestic Product as 20 million visits constituted a reduction in the amount of time people were carrying out other economic activity, such as online shopping. The point of this tongue-in-cheek remark is that estimating worth and impact is hard, whilst it is easy to over claim an assumed benefit purely based on a seemingly large number whilst ignoring possible deficits created elsewhere.

The Value of the British Library

The British Library (BL) has tried to use impact assessment and valuation as a means of justifying its expenditure and thus show a significant return on investment. In the latest report from 2013 they claim a *“valuation for the first time of the Library’s web services at some £19.5 million per annum”* (Tessler 2013, 1). This can be contextualized within a total valuation claimed in the same report for BL services as £527.3 million per annum. Compared to the costs reported in 2013, showing that the BL spent £3.6 million on Web services from a total spend of £137 million then those returns on investment for the UK look at first sight to be tremendously encouraging indicators of significant economic impact. However, on closer inspection the means of arriving at these figures is based almost entirely upon the time saved and travel costs mitigated by the online user with an added element of consumer surplus value. The travel and time savings are hard to pin to any one aspect of the BL service provision and thus it is difficult to see how these might help assess an exacting measure of impact other than a statement that online services are a generic good. Consumer surplus value is described as the benefits to those who would otherwise never use the BL’s resources and is a *“form of induced demand – effectively an increase in consumption of a good associated with an increase in supply”* (Tessler 2013, 34). The method used to measure it is stated as taking a suggested value from McKinsey (Pelissie du Rausas et al 2011) relating to *“recreational internet services”* of 20 Euros per month and *“used in conjunction with the relative proportion of time spent on the Library’s website to derive a consumer surplus value”* (Tessler 2013, 34). In my opinion, the figures derived by these methods are not a useful measure of economic impact on their community nor even a reliable measure of value as defined in the BL report. They are, as Kotler would define it, engaged in Marketing Management: the *“normative science involving the efficient creation and offering of values to stimulate desired transactions... [the] achieving specific responses in others through the creation and offering of values”* (Kotler 1972, 46). As such, they do not contribute to improvements in planning and strategic understanding as they are a product, an outcome (almost a casus belli) rather than a generator of strategic insight.

Demonstrating Impact: The Wellcome Library's digitization programme

The Wellcome Library has a very significant digitization programme, located just down the road from the British Library, taking a different approach and integrating impact into a wider framework of evaluation. The Wellcome Library is “*developing a world-class online resource for the history of medicine by digitising a substantial proportion of its holdings and making the content freely available on the web*” (Wellcome Library 2015). As part of the Wellcome Library's Transformation Strategy (Wellcome Library 2015a) a number of collections have been digitized and included in the innovative and extremely well formed Wellcome Library's digital presence. Collections include the Wellcome Arabic Manuscripts Online, recipe book manuscripts, AIDS posters, the very extensive Greater London Medical Officer of Health reports and Codebreakers: Makers of Modern Genetics. The latter, Codebreakers, has been the subject of detailed investigation to evaluate the Library digitization programme by measuring four aspects of the project: Reach, Impact, Quality and Value for Money. The methods for measuring Reach, Quality and Value for Money were already in place within the Trust. To assess Impact, the Wellcome Trust (Wellcome) worked with the Balanced Value Impact Model to establish their impact assessment framework. Codebreakers is “*an online research resource for the history of genetics, including digitised books and archives from the Wellcome Library and partner institutions*” [Wellcome Library 2015b]. The papers of twenty two scientists and organisations have been digitized, including those of Francis Crick, Rosalind Franklin and James Watson.

The Wellcome have progressed through stage 1-4 of an initial phase of the 5 stages of the BVI Model:

1. **Context:** The Wellcome held a workshop (facilitated by Tanner) to outline the context in which the digital resource Codebreakers is operating and to define the ecosystem of the digital resource, understand their stakeholders, consider the type of impact they wished to measure (social impact, economic impact, impact on innovation or on internal processes) and agree on the type of values they have (utility, prestige, education, community or bequest).
2. **Analysis & Design:** The information gathered in this workshop was analysed and methods for measuring impact against agreed ‘value drivers’ discussed, which resulted in the design of a personalised evaluation methodology for the Wellcome in relation to Codebreakers. The Wellcome created a phased plan to allow activities over differing timeframes.
3. **Implementation:** The plan has been implemented to gather data aligned with the types of impact and the values identified. Further data gathering will occur as later phases are implemented.
4. **Outcomes & Results:** For the initial phases this data is used to give a measure of impact that is relevant to Codebreakers and that is measured against the types of impact identified in the ‘Context’ stage.

5. **Review & Respond:** The Wellcome will use these results to review the process and to also consider potential changes to strategic planning before the process is repeated.

The phased approach at the Wellcome means that quantitative measures have produced results at the time of writing, but the more qualitative measures investigating user research and internal impact remain ongoing (Green 2014). Mostly based upon Web statistics and session metrics, regarding pageviews and time spent, they are indicative and helpful but will be augmented with more in depth measures in the future. A considerable amount of work was required to put in place the measures, including, for instance, adding a project code tag in the MARC record to allow for the Codebreakers use to be assessed separately from the other sibling resources in the digital library (Green 2014).

Initial results show that at least 40% of all content in Codebreakers had been looked at once or more. There was a strong imbalance in usage towards content that had been commissioned as interpretive material (79% of page views) as opposed to the plain digitized source content (21%) (Green 2014). This suggested both that push modes of engagement are working well and that metadata and guidance to finding source materials could be enhanced to draw researchers deeper into the resource. However, the use of archival content as measured by observing access to the Francis Crick materials demonstrated over 200 times more use in the digitized content than in the analog archival collection over comparable periods. Data also showed that Codebreakers digitized content is highly used outside the UK and that digitized content gained from partner organisations and contained in Codebreakers is also popular (Green 2014). These metrics reflect positively upon and map closely to the strategic direction of the Wellcome Library. In response to phase one of impact assessment, the Wellcome Library is refreshing its Web Content Strategy to reflect upon strategies for enriching metadata - as this is perceived as a barrier to discovery – and will also instigate different marketing approaches based upon the knowledge gained to date.

In summary, the Wellcome have found the BVI Model a useful framework and a positive process to date, especially in focusing attention on strategic values and providing a way of impact assessment based on familiar techniques and methods (Chaplin 2014).

The Balanced Value Impact Model

In response to the challenge of providing a focused and more exacting measure of impact, the Balanced Value Impact Model is recommended as a framework in which to consider, plan and implement impact assessment for a digital presence. An overview of the stages is provided in Figure 1 (Tanner 2012, 32).



Figure 1: The Balanced Value Impact Model in Overview

The Balanced Value Impact Model (BVI Model) is based upon two fundamental principles:

- Balancing perspectives through the Balanced Scorecard
- Focusing on the specific digital context by considering Values.

In the BVI Model, impact is defined as the measurable outcomes arising from the existence of a digital resource that demonstrate a change in the life or life opportunities of the community. The BVI Model is designed to provide a balanced approach to assess impact. One in which it becomes possible to show that the digital resource demonstrably made the host organisation grow better - more efficient and effective in reaching its goals; whilst stakeholders have become more satisfied, found social and economic benefit of tangible worth and society has been enhanced. This would be a significant move forward from any single perspective measure towards a measure that enables several perspectives and puts values in the core of assessment.

Using the Balanced Scorecard

The British Council uses a Balanced Scorecard approach of “*efficiency, equity, economy, effectiveness*” to aid their assessment of impact across millions of online users (Tanner 2012, 72). The benefit of a Balanced Scorecard is in the combination of financial and non-financial measures to provide richer information about activities than can be given by fiscal means alone. It is thus of great potential utility in the cultural field where the qualitative and subjective benefits of an activity are valued factors alongside financial return on investment benefits. The number of measures in Balanced Scorecards are usually constrained and clustered into four groups or perspectives. Originally these perspectives were "Financial", "Customer", "Internal Business Processes", and "Learning and Growth", and five or six measures were chosen for each perspective. Since its original development in

the 1990s, the Balanced Scorecard has become more complex and sophisticated, and other authors have suggested differing labels for the perspectives (Kaplan and Norton 1992).

The BVI Model reflects this within its Balanced Scorecard approach with the following core Perspectives headings:

- Social and Audience Impacts
- Economic Impacts
- Innovation Impacts
- Internal process Impacts

This approach assesses how Impact is occurring both externally and internally to the organisation delivering the digital resource. The advantage of the Balanced Scorecard is that it can simultaneously cover governmental cultural economics viewpoint with the desire to look at more intangible modes of value and social impact models. If the intent is to make strong statements of the benefit of sustaining digital resources then it is essential to be able to connect that value to the community such that they support the resource's existence.

Measuring impact through a Balanced Scorecard alone would be too blunt an instrument to be able to work across all the varied cultural, heritage, GLAM and academic sectors the BVI Model is intended for without significant modification for each. The Scorecard thus needs to be contextualized in a way that would allow values important to those sectors to shape the Impact Assessment. If such values could be attached to each of the Scorecard headings then a more faceted and exacting assessment can be achieved.

Five Modes of Cultural Value for Digital Resources

The BVI Model establishes a new set of Five Modes of Cultural Value for Digital Resources (Five Values). These Five Values are inspired by modes well established by cultural economists (Frey and Pommerehne 1989). Other values may be chosen if desired (for instance, Entertainment or Leisure) but these Five Values should at least be addressed in full.

The importance of these Five Values are to provide context at the design and evaluation of outcomes stages of Impact Assessment and thus ensure that measures consider not just direct benefits but also intangible value. Digital library resources and collections can thus be valued even by those not actively using them; they can have benefits that reflect back upon the creators and users and their communities; and they have benefits that extend into future generations.

The Five Modes of Cultural Value for Digital Resources are defined as follows:

- **Utility Value:** People value the utility afforded through use of the digital resources now or sometime in the future.

- **Existence and/or Prestige Value:** People derive value and benefit from knowing that a digital resource is cherished by persons living inside and outside their community. This value exists whether the resource is personally used or not.
- **Education Value:** People are aware that digital resources contribute to their own or to other people's sense of culture, education, knowledge and heritage and therefore value it.
- **Community Value:** People benefit from the experience of being part of a community that is afforded by the digital resource.
- **Inheritance / Bequest Value:** People derive benefit from the inheritance passed down to them and satisfaction from the fact that their descendants and other members of the community will in the future be able to enjoy a digital resource if they so choose.

Considering these Five Values is proposed as a helpful strategic planning tool and to clarify the core reasons for doing the Impact Assessment.

For example, in a community digital library collection with a strong social focus to the digital resource then the BVI Model framework for Social Impact might require an investigation of:

| Perspective | Value Driver |
|-------------|-----------------------------------|
| Social | Community + Existence + Education |

Whereas, if we considered a University with a digital library collection relating to a famous historical figure, then we may find that the BVI Model framework for Social Impact might require an investigation of:

| Perspective | Value Driver |
|-------------|--------------------------------|
| Social | Education + Bequest + Prestige |

Immediately, this reveals that the data collection methods and SMART indicators to be used for the Social Perspective for the Impact Assessment would be quite different from each other in these two examples. This reflects the differing values inherent in the nature of the collections, the stakeholders and the digital presence of each.

In the Wellcome Library's digitization programme example discussed earlier their Perspective/Value pairings were:

| Perspective | Value Driver |
|-------------|---------------------------------|
| Social | Utility + Community |
| Innovation | Utility + Community |
| Internal | Education + Inheritance/Bequest |
| Economic | Utility |

BVI Model Perspective/Value pairings for the Wellcome Library digitization project: Codebreakers

The pairings chosen by the Wellcome Library clearly demonstrate a strategic emphasis towards measuring active use and community benefit from the Codebreakers project. They have a desire to measure value for money but not to over emphasise the economic element compared to other priorities. As an organisation, the Wellcome also want to measure how they have grown in skills and capacities and delivered on institutional mission - thus, the focus on education and inheritance/bequest for the Internal Perspective.

Stakeholders in the BVI Model

In the context of the BVI Model a stakeholder is defined as a person, group, community, or organization that affects or can be affected by the ecosystem of the digital resource to be assessed. Digital libraries face a major challenge in identifying, categorizing, segmenting and analyzing stakeholders that are frequently diverse and diffuse. Such diversity means that reaching these stakeholders becomes very important, otherwise any assessment will merely reflect known outcomes rather than exploring new relationships.

Thinking about, discovering and defining stakeholders can be an effective part of strategic planning for digital libraries. At the strategic planning stage, the digital library should focus concern towards ensuring a wide and comprehensive list of stakeholder types are identified and characterized. Stakeholders are the only group who can genuinely transform our understanding of digital activities output into a significant outcome. So investigating change in the most appropriate, representative group for the outcome explored is critical to success.

There are several ways in which considering stakeholders could be helpful to strategic planning. Clearly, if stakeholders are understood and digital resources can be aligned to something the stakeholders already want or would find rewarding then so much the better. Further, if stakeholders can be given an active role in more social-based digital library resources then they themselves should define what factors constitute success in measuring the change achieved by delivering the resource. Social activities built into digital library delivery, such as crowdsourcing, can raise skill levels, add to community cohesion and be seen as democratizing decisions (Holley 2009). Considering stakeholders are also essential to avoid assumptions that can trip up a plan before it has started.

Challenging Assumptions

No digital library can deliver every service or meet every need imaginable. As such, areas will be deliberately left uninvestigated or unserved. Assumptions may be made that certain conditions, skills or resources are already in place. Consider these assumed conditions of use to avoid unseen biases that may corrupt the planned digital resource from its inception. For instance, assuming everyone has a Web enabled mobile phone or is able to read English may exclude stakeholders or skew the delivery of the digital library. Digital

library planning, because it is aimed towards a diffuse and diverse large-scale audience, often neglects groups that do not match the core assumptions of the planners. These neglected groups are often the vulnerable, disadvantaged or those from minorities. Taking the example of assuming all users will read English excludes not just the non-English readers but possibly those with a learning disability. There is a moral and ethical imperative for including these groups in strategic planning. It is also possible that these groups may benefit in ways that can be measurably larger than the mainstream and show genuine life changing characteristics.

The Importance of the Digital Ecosystem

An ecosystem is a set of interdependent relationships among the resources, technologies, organisation hosting, creators and consumers. These must be mapped and described to clearly enunciate the ecosystem of the digital resource. Without understanding the digital ecosystem it is hard to contemplate the full capabilities of the digital resource and its relationship to the stakeholders.

If we consider the case of Europeana, then it illustrates how identifying what is the digital ecosystem remains a significant challenge to innovation and development within a strategic and impact context. Europeana is not just a portal or digital library exposing a great amount of cultural heritage information to the public, it is also an open services platform enabling users and cultural institutions to access and manage a large collection of surrogate digital objects and content via an application program interface (API) (Concordia et al 2010). As such, the edges between the originating host cultural institutions, the content received by the users and the services provided by Europeana become blurred within the diffuse digitally linked environment.

The significant challenge is posed: can a detailed understanding of the ecosystem in which a digital library exists be described such that effective strategic intervention is measurable and capable of responding to changes in that ecosystem? In short, if we do not understand the jungle in which our resources exist are we not more likely to miss the luscious fruit in the canopy, the lurking predator or unexpected natural disaster?

Digital Resources in an Ecosystem

In the BVI Model a digital resource is scoped against a set of parameters (Tanner 2012, 43). These exist within an ecosystem - a set of interdependent relationships among the resources, technologies, organisation hosting, creators and consumers. The BVI Model provides an opportunity to map and describe the ecosystem of the digital resource. Parameters that help scope what a digital resource is include:

- There is a defined resource that is made up of a describable, cohesive set of primary and secondary materials, services, products and activities.
- The resource is accessed primarily through a digital platform (web, mobile, or other means).

- The nature of the content within the resource is digital in nature – either achieved through digitization or as born digital content.
- There is a definable group of users that the resource is intended to reach by digital means.
- The resource does not have to stand alone, it could be part of a wider set of activities, products, or services.

Questions to be answered in establishing an ecosystem of the digital resource include:

- What is the digital resource or service/product to be the focus of the assessment?
- What does the digital resource do, how does it behave?
- What does the digital resource explicitly not do?
- Via what platforms (web, mobile, other) is the digital resource primarily experienced by the stakeholders?
- What types and extent of content does it carry? What is the lifecycle of the content contained, is it ephemeral, dynamic, static, etc.?
- What sort of underlying infrastructure and architectures is it operating within?
- How does this digital resource relate to other digital resources or services? What dependencies and technical connections are required to make the resource function?
- What are the minimum technical specifications required by the user to experience the digital resource as intended by its creators?
- Who hosts the digital resource? Is the organisation/service that hosts the resource the same as that which created it?
- Who are the expected users of the digital resource?
- Does the user have to pay/subscribe or otherwise trade (personal information, advertising, etc) to gain access to the resource?
- Are there any legal or legislative frameworks to be considered, including:
 - Intellectual Property Rights (IPR),
 - Digital Rights Management (DRM),
 - issues of managing personal data,
 - contractual constraints or obligations, and/or
 - legislative frameworks of differing geographic regions.
- How is the digital resource intended to sustain itself and grow in the future?

In some cases this task will be very short and simple, but as the complexity of the ecosystem and its relationships to stakeholders grows, the task of describing it such that it aids decision making will grow more complex.

Concluding Thoughts: Using the Balanced Value Impact Model to Plan Strategically

The BVI Model requires the following attributes of context for the digital library:

- Four Balancing Perspectives (Internal/Innovation/Economic/Social) to allow a faceted view of Impact.

- Five Value drivers (Utility/Existence/Education/Community/Bequest) to ensure that priorities are matched to Perspectives.
- Understanding the digital library stakeholders so that priorities are set appropriately.
- A clear understanding of the digital ecosystem of the digital library.

These stages are the key elements to utilizing the BVI Model within a strategic planning context. This in no way suggests that the remainder of the process of Impact Assessment is easy - there remain many layers of data gathering and results to interpret still to be achieved once this contextual process is achieved. However, if Impact is approached with this faceted view, paying close attention to the Five Values that are driving the digital library and its communities then the remainder is a much more straightforwardly functional process to implement over time.

The outcomes of an Impact Assessment using the BVI Model should be able to demonstrate that:

- The digital library is more effective and efficient in delivering change and tangible benefits (Internal Impact);
- The organisation hosting the digital library is gaining strategic advantage through the innovation inherent in this digital activity (Innovation Impact);
- There is a strong economic benefit delivered to the community that demonstrate the worth and value of the endeavor in clear monetary terms (Economic Impact); and
- The community has been changed by the digital library resource in beneficial ways that can be clearly identified (Social Impact)

Thus, in a planning context the BVI Model provides a practical framework for digital libraries that mirrors the steps proposed in the Kellogg Logic Model (Figure 2) (Kellogg 2004).

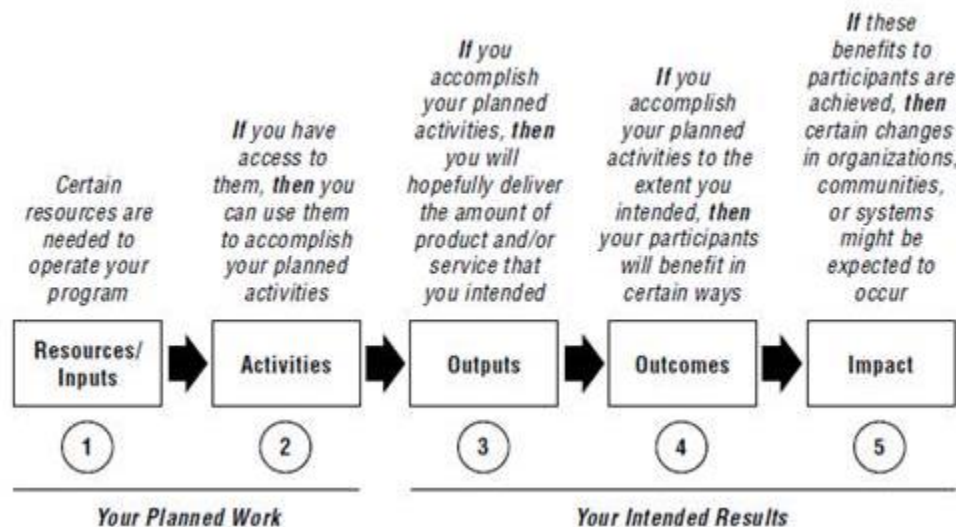


Figure 2: The Kellogg Logic Model
(with the permission of the W.K. Kellogg Foundation)

Planning our resources and activities such that they will deliver desired outputs is normal practice and many digital library or digitization projects are skilled in delivering millions of digital objects to their communities. What impact brings to planning is consideration of stages and steps far beyond those outputs. It forces a focus towards the outcomes or benefits that will be experienced by the digital library community if the digital outputs are achieved. We are then challenged to be even more ambitious; to state our objective of change to our community and organisation such that we can measure it and clearly demonstrate that it has occurred.

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